

June 26, 2009 11:42:18 AM

Page 1

Powder coating  
2/6/09.

**Accept**

[illegible]**Cust Item ID:**

**Customer:**

Run Start

Date:

Date:

**Stop**

Date:

**Date:**

**Insp.  
Stamp**

## Quality Control

# Work Order ID 46980

June 26, 2009 11:42:18 AM



Page 2

Item ID: D3391-021  
Revision ID: H  
Item Name: Fwd Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00  
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  HAAS 1	HAAS CNC VERTICAL MACHINING #1	0.00							
HAAS CNC vertical machine #1	<b>Memo</b> 1-Machine as per Folio FA590 Rev. ____ & Dwg D3391 Rev. ____ Identify as D3391-1□2-Deburr	0.00							✓
140  QC	QC2- Inspect parts off machine FAI/FAIB	0.00							
Quality Control	<b>Memo</b>	0.00							✓
150  Mill Conv	CONVENTIONAL MILLING MACHINE	0.00							
Conventional Milling Machine	<b>Memo</b> Drill X1 Aft cap as per Dwg D3391 .1875" dia	0.00							✓

**Work Order ID 46980**

June 26, 2009 11:42:18 AM



Page 3

Item ID: D3391-021  
Revision ID: H  
Item Name: Fwd Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00



Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Run Start



Stop



Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N): Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC Quality Control	Memo	0.00		✓					
170 	QC8- Inspect parts - second check	0.00							
QC Quality Control	Memo	0.00		✓					
180 	Skidtubes	0.00							
Skidtubes Skidtubes	Memo 1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size) (ONLY DRILL HOLES MARKED "A") 2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step 3-Open tow cap hole	0.00							✓

# Work Order ID 46980

June 26, 2009 11:42:18 AM



Page 4

Item ID: D3391-021  
Revision ID: H  
Item Name: Fwd Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00  
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: Date:  
QC: Date:

Tooling: Date:  
SPC (Y/N): Date:

Run Start  
Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							
200  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1  Memo	0.00 0.00							
210  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00 0.00							

# Work Order ID 46980

June 26, 2009 11:42:18 AM



Page 5

Item ID: D3391-021  
Revision ID: H  
Item Name: Fwd Tube Assembly

Accept



Setup Start  
Stop



Start Date: 15/07/2009 Start Qty: 1.00  
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N): Date:

Run Start  
Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220 	Skidtubes	0.00							
Skidtubes	Memo	0.00							
Skidtubes	1-instal spacers as per dwg D3391 A/R Magnabond 6398 batch: exp. date: cure time 12hrs. as per QSI015! 12- grind crossbolt flush! 13-back drill crossbolt if necessary								✓
230 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo	0.00							✓
240 	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
Powdercoat Powder Coating	Memo	0.00							
	START TIME: OVEN TEMPERATURE: FINISH TIME:								✓

# Work Order ID 46980

June 26, 2009 11:42:18 AM

Page 6

Item ID: D3391-021

Accept

Revision ID: H

Item Name: Fwd Tube Assembly

Start Date: 15/07/2009 Start Qty: 1.00

Required Date: 03/08/2009 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

250

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

260

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

PPP52424 9/9/20 DSC

270

Skidtubes

0.00



Skidtubes

Memo

0.00

Skidtubes

\*\*\*\* install D3591-1 spacer as per DS19364 \*\*\*\*

M143172 (x2)

09109122

x2

# Work Order ID 46980

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Page 7

Item ID: D3391-021  
Revision ID: H  
Item Name: Fwd Tube Assembly

Accept



Setup Start



Stop



Start Date: 15/07/2009 Start Qty: 1.00  
Required Date: 03/08/2009 Req'd Qty: 1.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan: Date:  
QC: Date:

Tooling:

Date:

Run Start



Stop



SPC (Y/N):

Date:

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

280

QC21- Final Inspection - Work Order Release

0.00

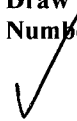


QC

Memo

0.00

Quality Control



## Picklist Print

June 26, 2009 11:31:06 AM

Page 1

**Work Order ID:** 46980

**Parent Item:** D3391-021RevH

**Parent Item Name:** Fwd Tube Assembly

**Start Date:** 15/07/2009

**Required Date:** 03/08/2009

**Comments:**

**Start Qty: 1.00**

**Required Qty: 1.00**

[illegible]



# Picklist Print

June 26, 2009 11:31:06 AM

Page 2

Work Order ID: 46980

Parent Item: D3391-021RevH

Parent Item Name: Fwd Tube Assembly



Comments:

Start Date: 15/07/2009

Required Date: 03/08/2009

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
✓ D3672-1RevB		Manufactured	No			260	Each	0.0000	4.0000			
												
Phenolic Washer												

June 26, 2009 11:31:06 AM

Shop Packet Print

Page 2

Date: Tuesday, 07/04/2009 10:21:29 AM  
 User: Julie Dawson

## Process Sheet

<b>Customer</b> : CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> : FWD TUBE ASSEMBLY
<b>Job Number</b> : 46980	
<b>Estimate Number</b> : 10467	
<b>P.O. Number</b> :	<b>Part Number</b> : D3391021
<b>This Issue</b> : 07/04/2009 <b>S.O. No.</b> :	<b>Drawing Number</b> : D3391 REV H
<b>Prsht Rev.</b> : NC	<b>Project Number</b> : N/A
<b>First Issue</b> : / / <b>Type</b> : SKIDTUBES	<b>Drawing Revision</b> : H
<b>Previous Run</b> : 46979	<b>Material</b> :
<b>Written By</b> :	<b>Due Date</b> : 27/04/2009 <b>Qty:</b> 1 <b>Um:</b> Each
<b>Checked &amp; Approved By</b> : <u>Jul 09-04-07</u>	
<b>Comment</b> :	
Est. A 05.09.13 New issue KJJ/JLM	
Est. B 06.02.10 Dwg rev.D ecn 773 EC	
Est. C 06.05.02 Added inspections EC	
est D 07.03.13 rev F dwg EC	
est E 07.11.07 revG dwg ecn1053P EC verified by: DD	
Est Rev:f ECN 1056 07-11-12 DD verified by: EC	
Est Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC	
Est Rev:H 08-09-10 revH as per dwg DD verified by:EC	
Est Rev J 09.02.02 added hardware EC verified by: DD	

## Additional Product

Job Number:



<b>Seq. #:</b>	<b>Machine Or Operation:</b>	<b>Description :</b>
----------------	------------------------------	----------------------

1.0	D6013047	Skidtube Material
-----	----------	-------------------



**Comment:** Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

SKIDTUBE MAT'L

Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	23935

27 09-04-13

2.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
-----	-------------	-----------------------

**Comment:** LANDING GEAR RESOURCE 1

Cut extrusion to 46.52 +0.010 -0.020

27 09-04-14

3.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------

**Comment:** Nc bender

Bend as per Dwg D3391 Using Bend Prog 3391021

27 09-04-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 07/04/2009 10:21:29 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 46980

Part Number: D3391021

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

4.0

QC5

INSPECT WORK TO CURRENT STEP



*h = 6.816"*  
*∠ = 13.3°*



Comment: INSPECT WORK TO CURRENT STEP

*8/09/04/14*

5.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine as per Folio FA590 Rev. F & Dwg D3391 Rev. H  
Identify as D3391-1

2-Deburr

*N.A 09/04/26*

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*N.A 09/04/26*

7.0

MILLING CONV.

CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE

Drill X1 Aft cap as per Dwg D3391 .1875" dia

*SA 09/04/27*

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*SA 09/04/27*

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

*SP 09/04/08 (1)*

10.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)  
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5- open float bag holes 0.328" and counter sink as per dwg D3391

*H*  
*9-4-32*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 07/04/2009 10:21:29 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 46980

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

6-Deburr & Scribe Batch number Inside aft end.

7-Transfer drill D3391-021 with D3391-023

) M 9-5-21

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8 09/05/02 (X)

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

AVM 9-5-22 (1)

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

9 M 9-5-29

14.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SPACER

(batch: 34722 46106 (5) M 9-5-29

15.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-instal spacers as per dwg D3391

A/R Magnabond 6398 batch: M111249

exp. date: 10-2-1

cure time 12hrs. as per QSI015

M 9-5-29

2- grind crossbolt flush

3-back drill crossbolt if necessary

) M 9-6-2

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

8 09/06/02 (X)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 07/04/2009 10:21:29 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 46980

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

POWDER COATING

POWDER COATING



M 111472



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

10:10

OVEN TEMPERATURE:

320°

FINISH TIME:

10:40

F 09/06/02

(1)

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



sl



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

09/09/22

(X1)

19.0

D3401041

Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Tow Cap Assembly

B 41931

sl

09/09/22

(X1)

20.0

D356413

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Wearshoe

B 50270

sl

21.0

D356613

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Gasket

B 50265

sl

22.0

D36721

Phenolic Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Phenolic Washer

B 42329

sl

23.0

AN3C4A

BOLT



Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)

BOLT

M 112612

sl

09/09/22

(X1)



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Tuesday, 07/04/2009 10:21:29 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 46980

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)  
washer 1112116 24

25.0

ALS41032130

Insert



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)  
INSERT 1111779 24

26.0

ALS41032225

Insert



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)  
INSERT 1110768 24

27.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
Identify and Stock  
Location: 348031 24

28.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: SKIDTUBESS RESOURCE 1  
\*\*\*\* install D3591-1 spacer as per DSI9364 \*\*\*\* 24

29.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



09/09/30 24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

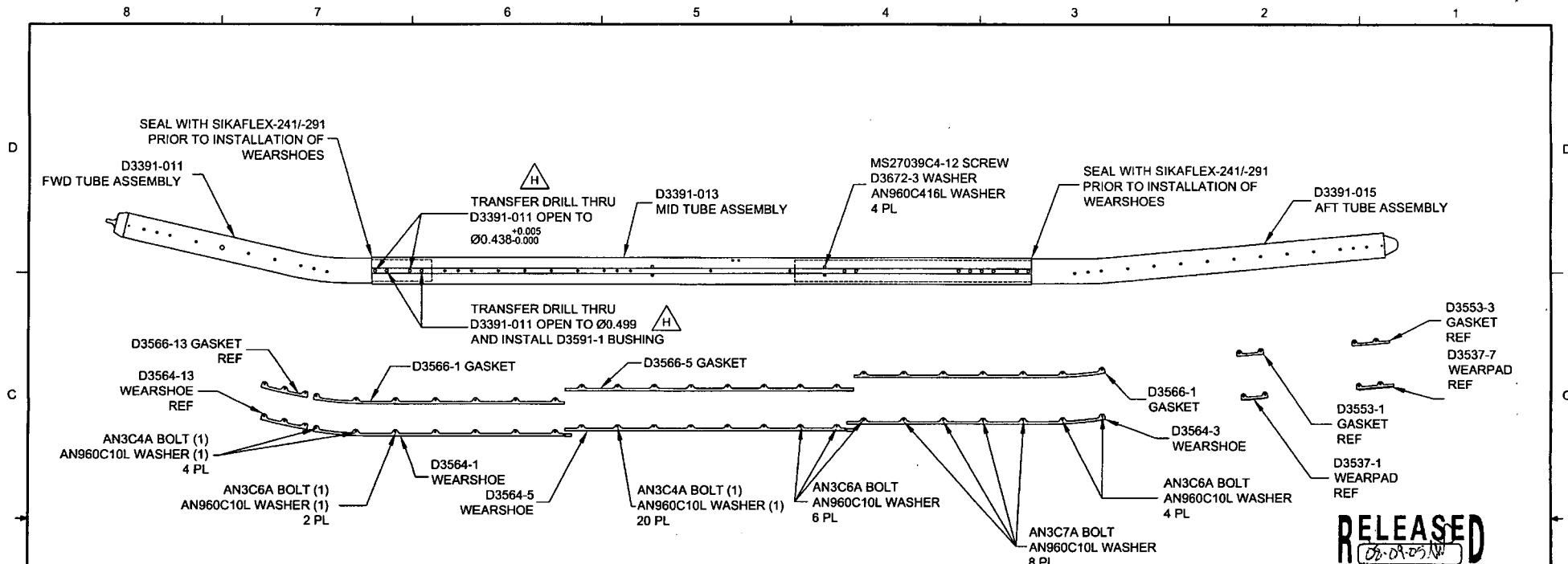
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D3391-041 ASSEMBLY**

**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
2	D3566-5	GASKET
4	D3591-1	BUSHING
4	D3672-3	WASHER
2	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
4	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

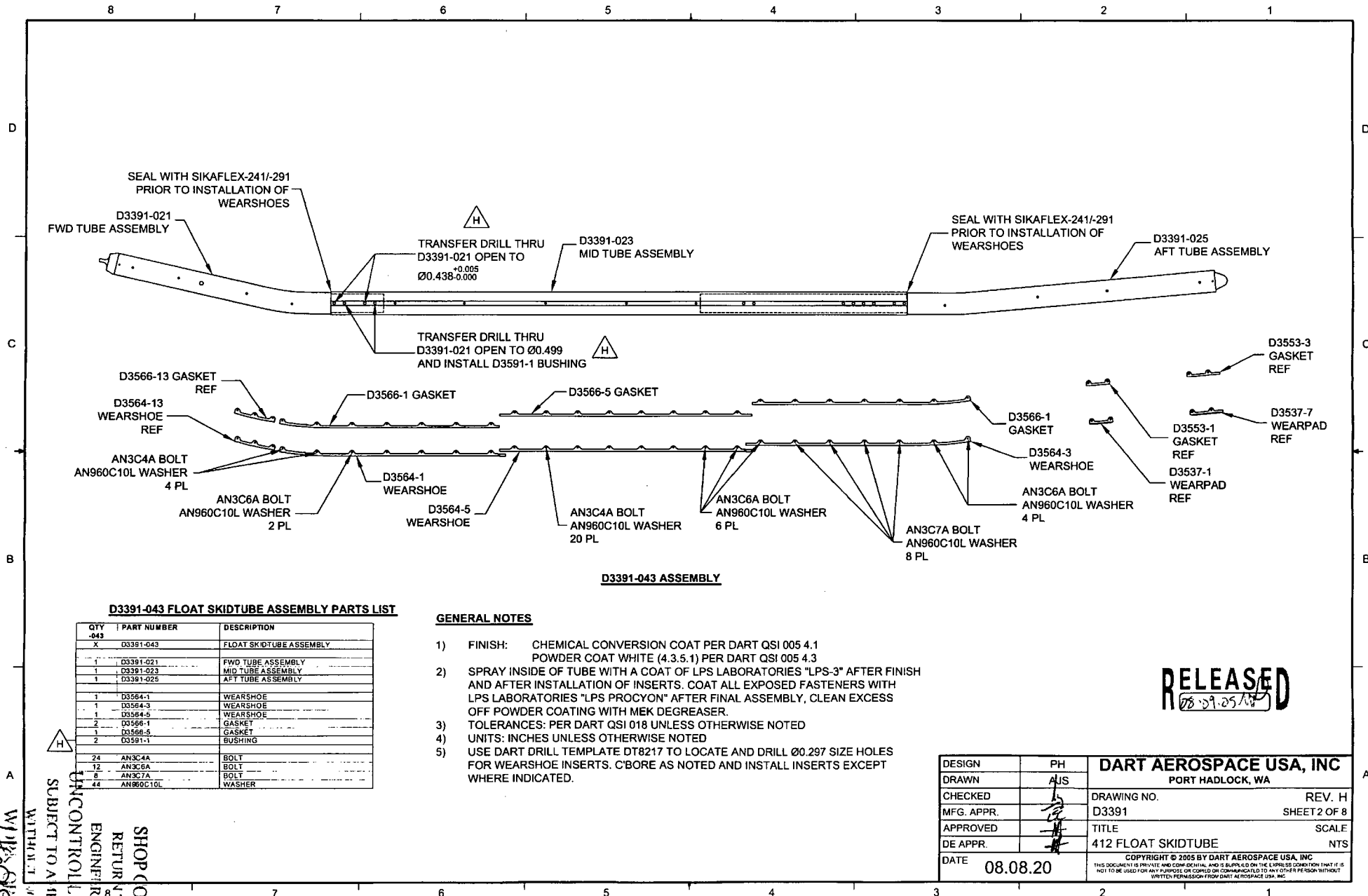
**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL. ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL. ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE HAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE

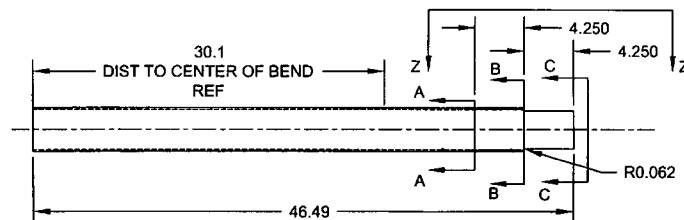
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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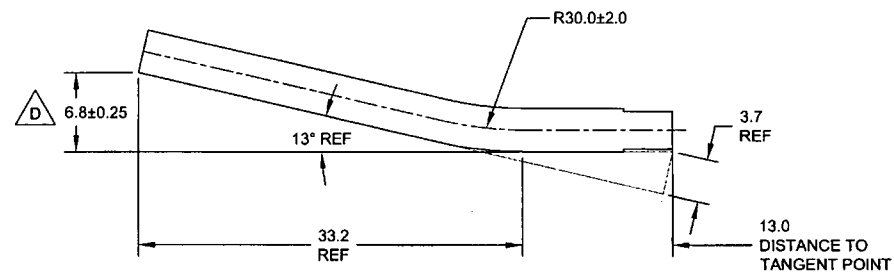


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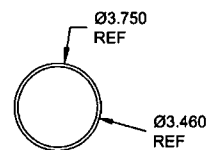
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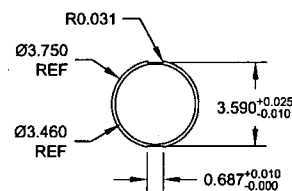
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(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



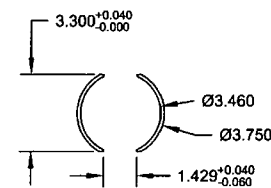
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



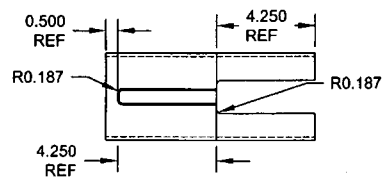
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**SECTION B-B**  
SCALE 2X





**SECTION C-C**  
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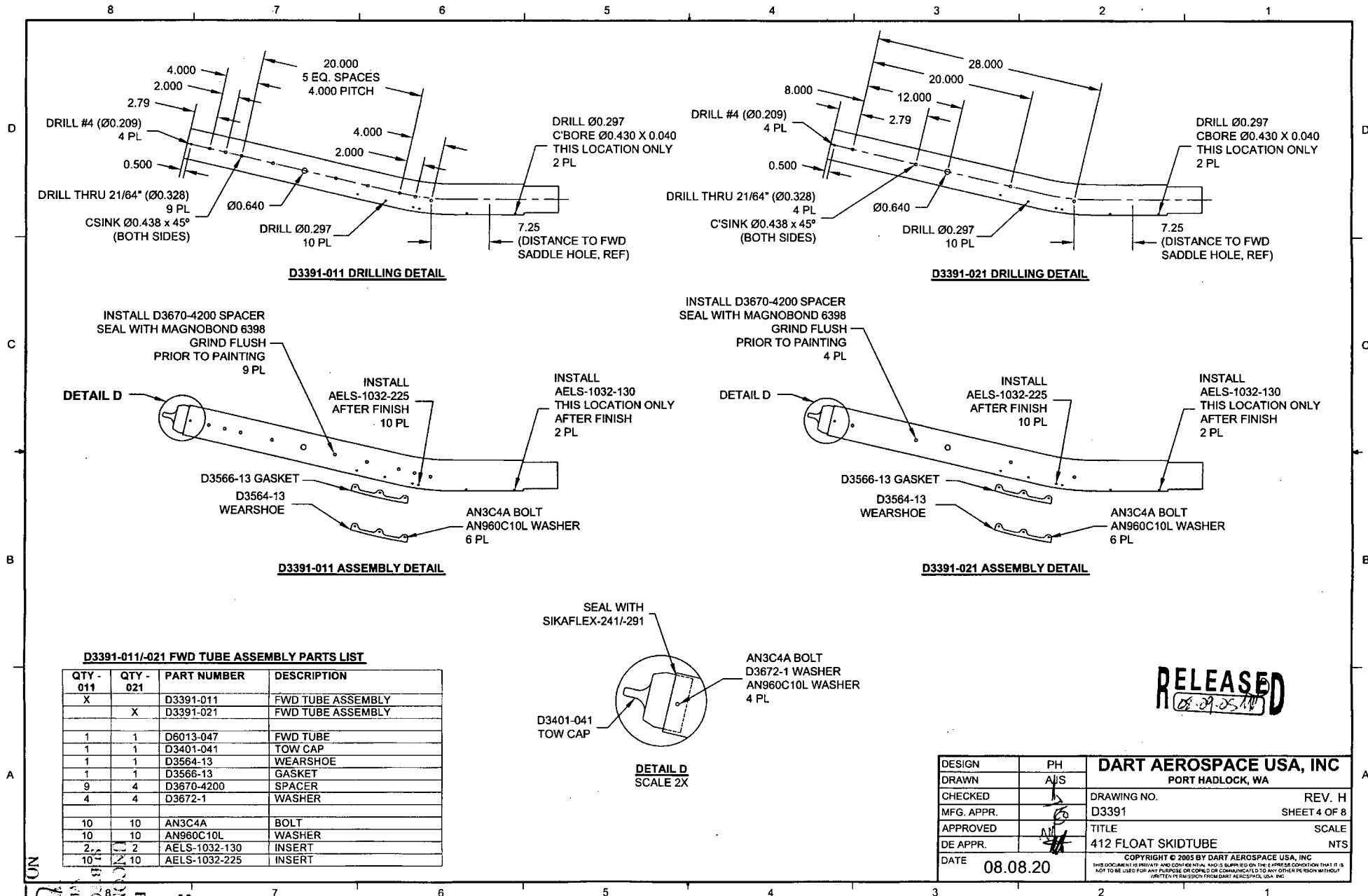


**VIEW Z-Z**  
SCALE 2X

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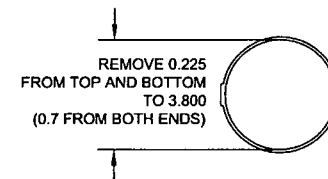
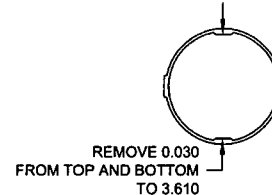
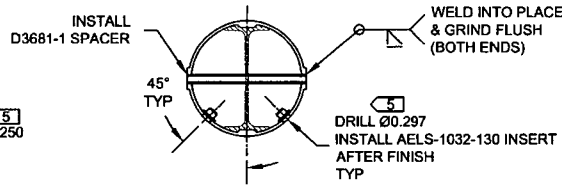
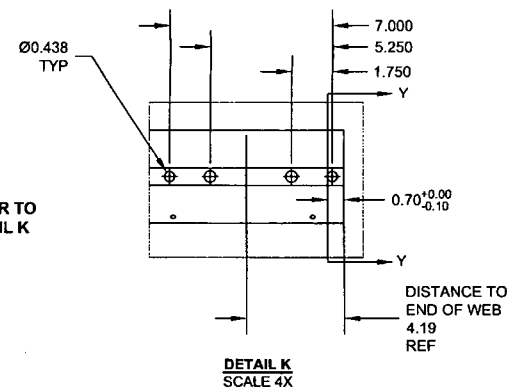
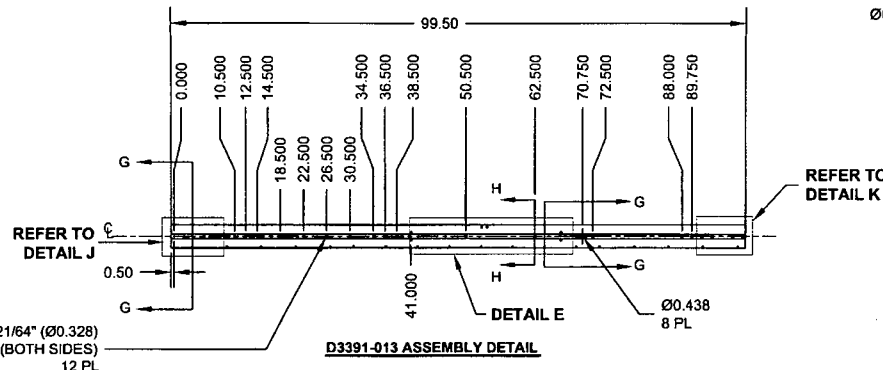
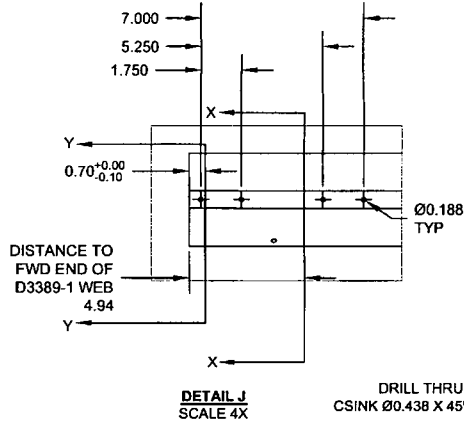
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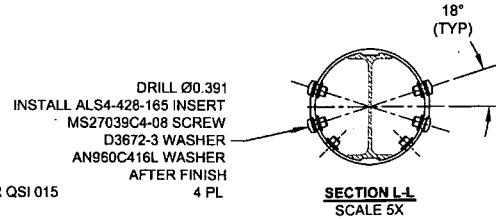
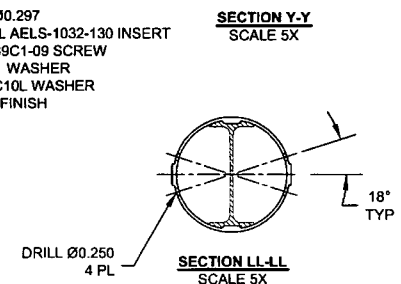
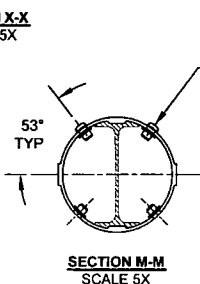
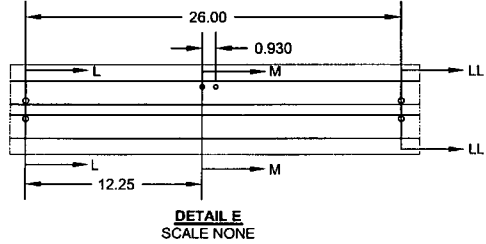
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**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

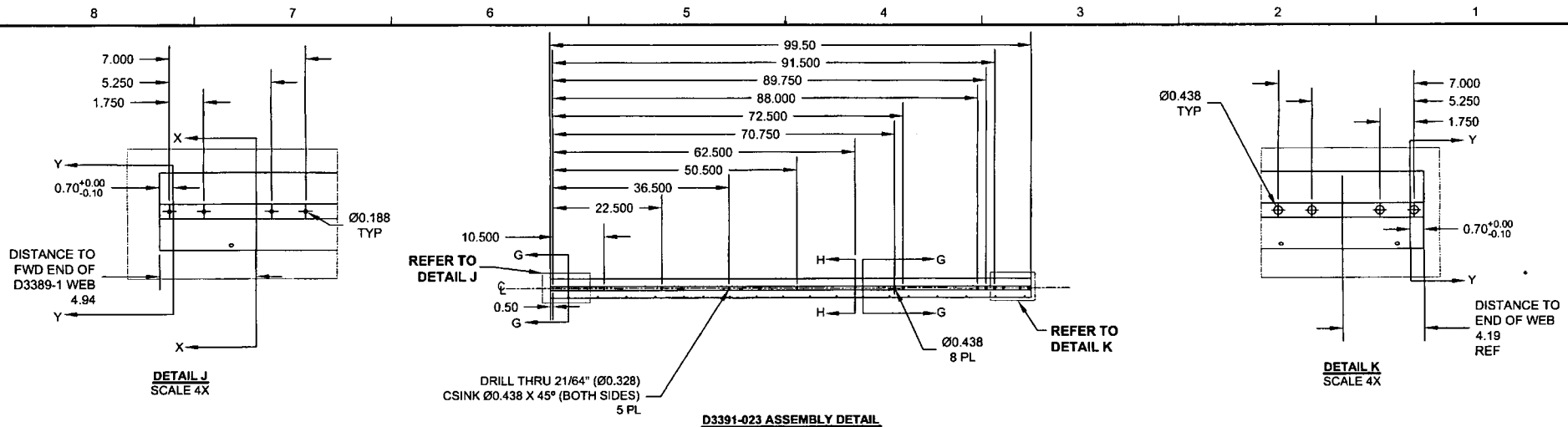


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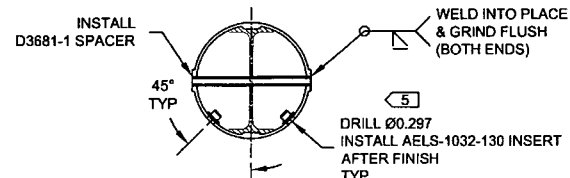
**D3391-013 MID TUBE ASSEMBLY**

- MATERIALS MAKE FROM D2500-1-100 EXTRUSION
- INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- WELDING PER DART QSI 004

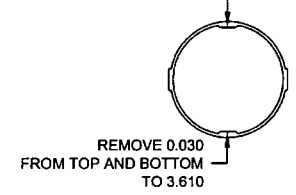
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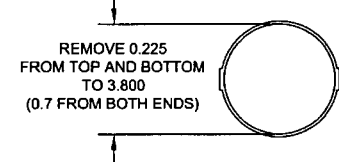
SECTION G-G  
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SECTION H-H  
SCALE 5X



SECTION X-X  
SCALE 5X



SECTION Y-Y  
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**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

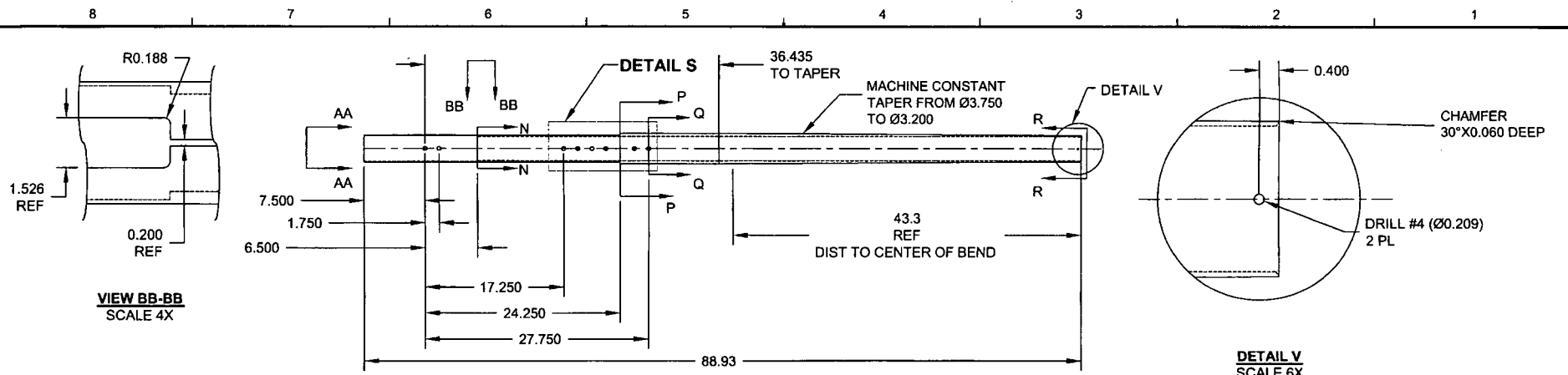
QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

**D3391-023 MID TUBE ASSEMBLY**  
 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION  
 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015  
 3) WELDING: PER DART QSI 004

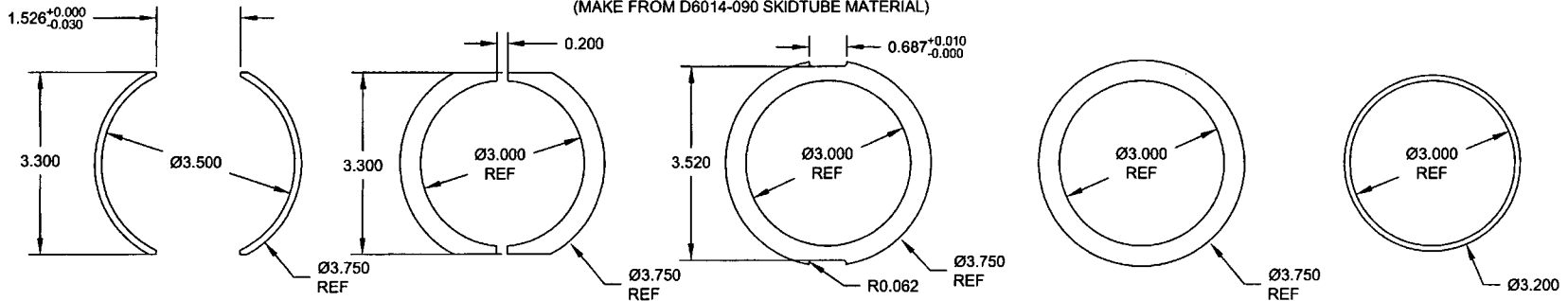
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**D3391-3 AFT DRILLING AND CUTTING DETAIL**  
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



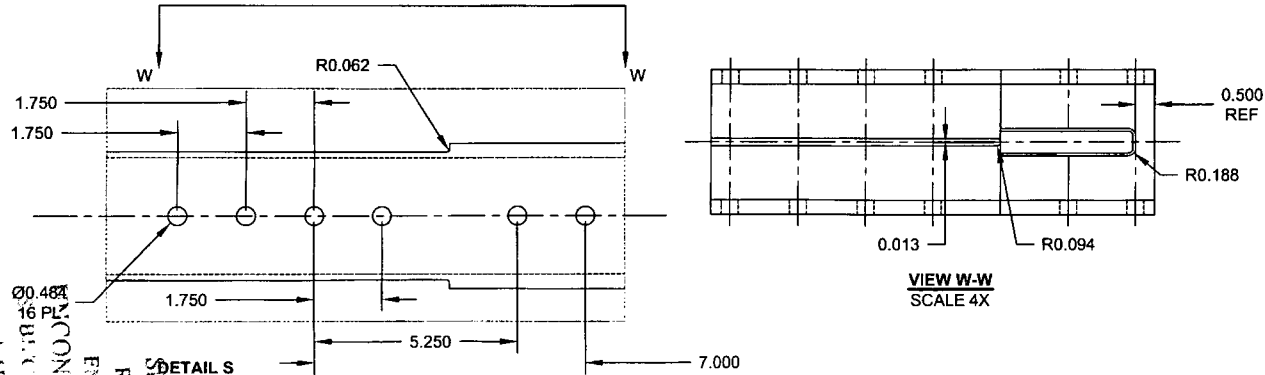
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**SECTION N-N**  
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**SECTION P-P**  
SCALE 6X

**SECTION Q-Q**  
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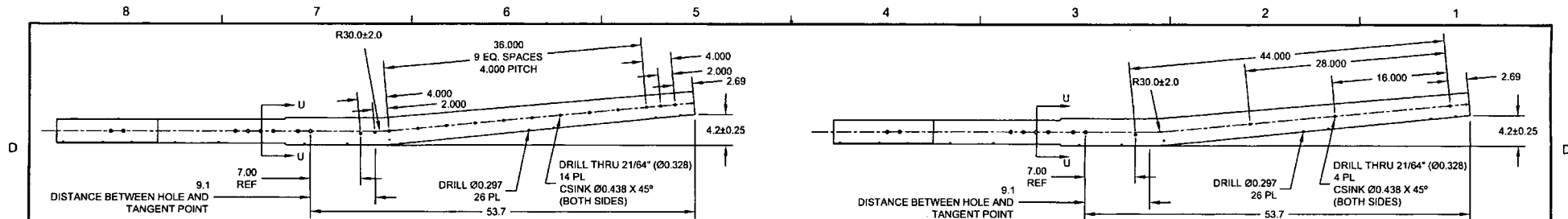
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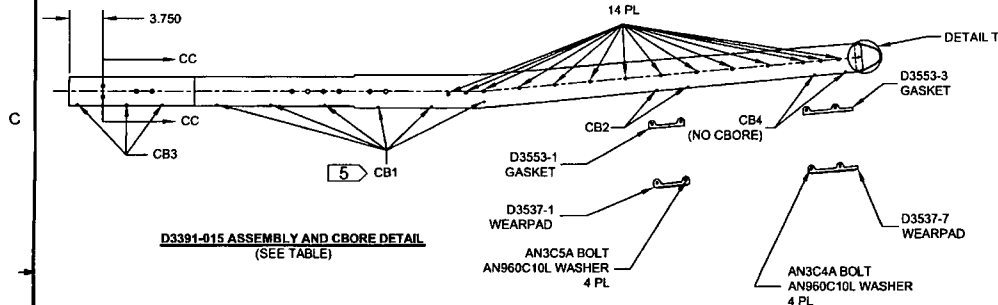
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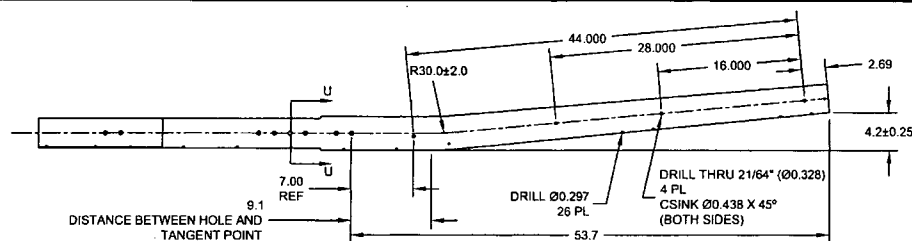


**D3391-015 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER.  
SEAL WITH MAGNOBOND 6398  
GRIND FLUSH  
PRIOR TO PAINTING  
14 PL

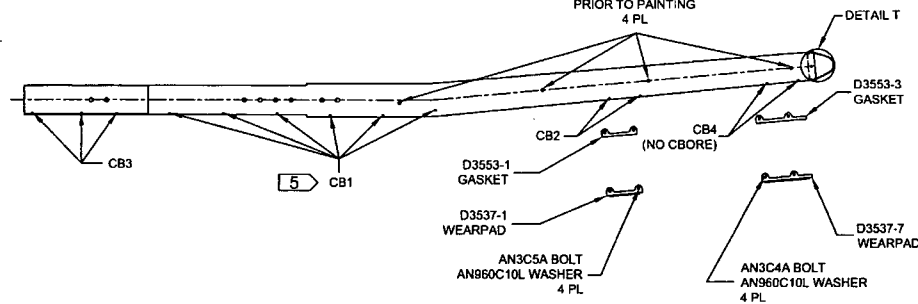


**D3391-015 ASSEMBLY AND CBORE DETAIL**  
(SEE TABLE)



**D3391-025 BENDING AND DRILLING DETAIL**  
(SEE CBORE DETAIL BELOW)

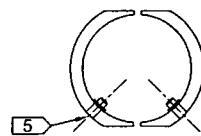
INSTALL D3670-4200 SPACER  
SEAL WITH MAGNOBOND 6398  
GRIND FLUSH  
PRIOR TO PAINTING  
4 PL



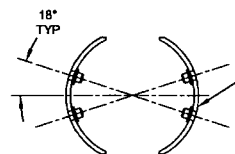
**D3391-025 ASSEMBLY AND CBORE DETAIL**  
(SEE TABLE)

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

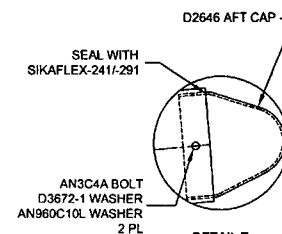


**SECTION U-U**  
SCALE 3X



**SECTION CC-CC**  
SCALE 3X

DRILL Ø0.391  
CBORE Ø0.516 X 0.040 DEEP  
INSTALL ALS4-428-165 INSERT  
4 PL




**DETAIL T**  
SCALE 4X

**RELEASED**  
08-09-05-10

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND  
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

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